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NEWS	18	SEP 01 INPADOC: New family current-awareness alert (SDI) available
NEWS	19	SEP 01 New pricing for the Save Answers for SciFinder Wizard within STN Express with Discover!
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=> 19(P) (mercury or metal or analyte) (P) (detect or measure or determin)
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FIELD CODE - 'AND' OPERATOR ASSUMED 'L2(P) (MERCURY'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'ANALYTE) (P) (DETECT'
L11 5 FILE BIOTECHNO
L12 0 FILE CONFSCI
L13 0 FILE HEALSAFE
L14 0 FILE IMSDRUGCONF
L15 3 FILE LIFESCI
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PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'ANALYTE) (P) (DETECT'
L16 0 FILE MEDICONF
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'L8(P) (MERCURY'
PROXIMITY OPERATOR LEVEL NOT CONSISTENT WITH
FIELD CODE - 'AND' OPERATOR ASSUMED 'ANALYTE) (P) (DETECT'
L17 5 FILE PASCAL

TOTAL FOR ALL FILES
L18 13 L9(P) (MERCURY OR METAL OR ANALYTE) (P) (DETECT OR MEASURE OR DETER
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=> dup rem
ENTER L# LIST OR (END) :118
DUPLICATE IS NOT AVAILABLE IN 'IMSDRUGCONF, MEDICONF'.
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L19 10 DUP REM L18 (3 DUPLICATES REMOVED)

=> d 119 ibib abs total

L19 ANSWER 1 OF 10 LIFESCI COPYRIGHT 2004 CSA on STN
ACCESSION NUMBER: 2004:73896 LIFESCI
TITLE: A proteomic approach to identify phosphoproteins encoded by
cDNA libraries
AUTHOR: Shi, X.; Belton, R.J., Jr.; Burkin, H.R.; Vieira, A.P.;
Miller, D.J.
CORPORATE SOURCE: Department of Animal Sciences, University of Illinois, 1207
West Gregory Drive, Urbana, IL 61801, USA; E-mail:
djmille@uiuc.edu
SOURCE: Analytical Biochemistry [Anal. Biochem.], (20040600) vol.
329, no. 2, pp. 289-292.
ISSN: 0003-2697.
DOCUMENT TYPE: Journal
FILE SEGMENT: N
LANGUAGE: English
SUMMARY LANGUAGE: English

AB We report a method for large-scale rapid analysis of phosphoproteins in
tissues or **cells** by combining **immobilized**
metal affinity chromatography (IMAC) with phage display cDNA
library screening. We expressed a testis cDNA library as fusion proteins
on phage and, using IMAC, enriched for sequences encoding phosphoproteins.
Selected clones were polymerase chain reaction amplified and sequenced.
The majority of the clones sequenced (80%) encoded known proteins
previously identified as phosphoproteins. Immunoblotting with
phosphotyrosine antibodies confirmed that some of the selected sequences
encoded tyrosine phosphorylated proteins when expressed on phage. An
advantage of this method is the rapid identification of phosphoproteins
encoded by a cDNA library, which can identify proteins that are
potentially phosphorylated *in vivo*. When this method is combined with

limited enzymatic digestion and tandem mass spectrometric techniques, the specific phosphorylation site in a protein can be identified. This technique can be used in proteomics studies to effectively **detect** phosphorylated proteins and avoid time-consuming and expensive peptide sequencing.

L19 ANSWER 2 OF 10 PASCAL COPYRIGHT 2004 INIST-CNRS. ALL RIGHTS RESERVED.
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ACCESSION NUMBER: 2002-0387673 PASCAL
COPYRIGHT NOTICE: Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
TITLE (IN ENGLISH): Immobilization of barley protoplasts on a
polyelectrolyte modified electrode for measuring the
photoelectric behavior of protoplasts
AUTHOR: YULAN QI; HONGPING ZHANG; MANMING YAN; ZHIYU JIANG
CORPORATE SOURCE: Department of Chemistry, Fudan University, Shanghai
200433, China
SOURCE: Electrochemistry communications, (2002), 4 (5),
431-435, 23 refs.
ISSN: 1388-2481
DOCUMENT TYPE: Journal
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: Netherlands
LANGUAGE: English
AVAILABILITY: INIST-26863, 354000101042980170
AN 2002-0387673 PASCAL
CP Copyright .COPYRGT. 2002 INIST-CNRS. All rights reserved.
AB A novel method to immobilize barley protoplasts on the poly(diallyl
dimethyl ammonium chloride) gold/(PDADMAC) electrode was developed for
the purpose to **measure** the photoelectric behavior of barley
protoplasts. The electrochemical quartz crystal microbalance (EQCM)
results show that the thickness of the adsorbed PDADMAC layer is 2.4 nm.
The barley protoplasts are immobilized on the surface of gold/PDADMAC
electrode due to the electrostatic adsorption between negatively charged
protoplasts and positively charged PDADMAC. The fluorescence image taken
by laser scanning confocal microscope shows that the attached barley
protoplasts are integrity. For the gold/PDADMAC/barley protoplast
electrode an anodic photocurrent was observed under the irradiation of
white light (wavelength of 200-800 nm) and its properties are discussed.
This novel method may provide a convenient technique for
immobilizing cells or other bio-particles on the
surface of electrode for studying their electrochemical characters.

L19 ANSWER 3 OF 10 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
DUPLICATE

ACCESSION NUMBER: 2002:34311443 BIOTECHNO
TITLE: Optical algal biosensor using alkaline phosphatase for
determination of heavy **metals**
AUTHOR: Durrieu C.; Tran-Minh C.
CORPORATE SOURCE: C. Tran-Minh, Centre SPIN/Genie Enzymatique, Ecole
Nationale Supérieure des Mines, 158 Cours Fauriel,
42023 Saint Etienne Cedex 2, France.
E-mail: claude.durrieu@entpe.fr
SOURCE: Ecotoxicology and Environmental Safety, (2002), 51/3
(206-209), 12 reference(s)
CODEN: EESADV ISSN: 0147-6513
DOCUMENT TYPE: Journal; Article
COUNTRY: United Kingdom
LANGUAGE: English
SUMMARY LANGUAGE: English
AN 2002:34311443 BIOTECHNO
AB A biosensor is constructed to **detect** heavy **metals**
from inhibition of alkaline phosphatase (AP) present on the external
membrane of Chlorella vulgaris microalgae. The microalgal **cells**

are immobilized on removable membranes placed in front of the tip of an optical fiber bundle inside a homemade microcell. *C. vulgaris* was cultivated in the laboratory and its alkaline phosphatase activity is strongly inhibited in the presence of heavy metals. This property has been used for the determination of those toxic compounds.
.COPYRGT. 2002 Elsevier Science (USA).

L19 ANSWER 4 OF 10 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN
ACCESSION NUMBER: 2000:30802064 BIOTECHNO

TITLE: Potential for the use of photosystem II submembrane fractions immobilised in poly(vinylalcohol) to detect heavy metals in solution or in sewage sludge

AUTHOR: Rouillon R.; Boucher N.; Gingras Y.; Carpentier R.

CORPORATE SOURCE: R. Rouillon, Universite de Perpignan, Centre de Phytopharmacie, UMR CNRS no. 5054, 52 Av de Villeneuve, 66860 Perpignan, France.

E-mail: rouillon@univ-perp.fr

SOURCE: Journal of Chemical Technology and Biotechnology, (2000), 75/11 (1003-1007), 15 reference(s)

CODEN: JCTBDC ISSN: 0268-2575

DOCUMENT TYPE: Journal; Article

COUNTRY: United Kingdom

LANGUAGE: English

SUMMARY LANGUAGE: English

AN 2000:30802064 BIOTECHNO

AB Photosystem II submembrane fractions were immobilised by entrapment in poly(vinylalcohol) bearing styrylpyridinium groups (PVA-SbQ). The properties of the immobilised material, in a single-compartment micro-photoelectrochemical cell using platinum electrodes in potentiostatic mode, were compared with native (free) samples. The optimal operating conditions were investigated (electron acceptor concentration, pH, temperature, time contact and chlorophyll concentration). The photocurrent of the immobilised fractions could be inhibited by pollutants such as heavy metals (mercury, copper, lead, cadmium, chromium, nickel, and zinc) in solution. The potential for use of this system to evaluate the toxicity of sewage sludges was shown.

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ACCESSION NUMBER: 1999-0521977 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Surface enhanced Raman spectroscopy of bacteria coated by silver

Advances in fluorescence sensing technology IV : San Jose CA, 24-27 January 1999

AUTHOR: EFRIMA S.; BRONK B. V.; CZEDE J.

LAKOWICZ Joseph R. (ed.); SOPER Steven A. (ed.); THOMPSON Richard B. (ed.)

CORPORATE SOURCE: Department of Chemistry, Ben Gurion University, 84105, Israel; US AFRL, ERDEC, Aberdeen Proving Ground, MD 21010-5424, United States; Uniformed Services University of the Health Sciences, Bethesda, MD 20814-4799, United States

International Society for Optical Engineering, Bellingham WA, United States (patr.); International Biomedical Optics Society, United States (patr.) SPIE proceedings series, (1999), 3602, 164-171, 12 refs.

SOURCE: Conference: 4 Advances in fluorescence sensing technology. Conference, San Jose CA (United States), 24 Jan 1999

ISSN: 1017-2653
ISBN: 0-8194-3072-2
DOCUMENT TYPE: Journal; Conference
BIBLIOGRAPHIC LEVEL: Analytic
COUNTRY: United States
LANGUAGE: English
AVAILABILITY: INIST-21760, 354000084580860190

AN 1999-0521977 PASCAL

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AB We present a novel method to **measure** Raman spectra from whole bacteria cells by using Surface Enhanced Raman Scattering (SERS). We deposit a silver **coat** on *Escherichia coli* and *Bacillus megaterium* bacteria and **measure** strongly enhanced (>400,000 fold) and highly reproducible Raman spectra. The spectra are rich but not overly congested, as the surface enhancement is selective to the precise chemical nature of the biochemical molecules, and their proximity to the silver particulate matter. The main bands we observe can be associated with peptides and polysaccharides in the cell-wall and its membrane. The spectra from *E. coli* (a Gram-negative bacterium) and *B. megaterium* (a Gram-positive bacterium) are similar in their general form, but differ in detail. The spectrum from a commercial yeast extract is vastly different. This approach can be extended to probe the internal chemical environment within bacteria and applied to the identification of microorganisms also applied to studying other biochemical problems and phenomena, such as biominerization, heavy **metal** toxicity, cell-wall structure and others.

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ACCESSION NUMBER: 1999-0008643 PASCAL

COPYRIGHT NOTICE: Copyright .COPYRGT. 1999 INIST-CNRS. All rights reserved.

TITLE (IN ENGLISH): Detection of heavy **metal** ions at femtomolar levels using protein-based biosensors

AUTHOR: BONTIDEAN I.; BERGGREN C.; JOHANSSON G.; CSOEREGI E.; MATTIASSEN B.; LLOYD J. R.; JAKEMAN K. J.; BROWN N. L.

CORPORATE SOURCE: Department of Biotechnology, Chemical Center, P.O. Box 124, Lund University, 221 00 Lund, Sweden; Department of Analytical Chemistry, Chemical Center, P.O. Box 124, Lund University, 221 00 Lund, Sweden; School of Biological Sciences, The University of Birmingham, Edgbaston, Birmingham B15 2TT, United Kingdom

SOURCE: Analytical chemistry : (Washington, DC), (1998), 70(19), 4162-4169, 35 refs.

ISSN: 0003-2700 CODEN: ANCHAM

DOCUMENT TYPE: Journal

BIBLIOGRAPHIC LEVEL: Analytic

COUNTRY: United States

LANGUAGE: English

AVAILABILITY: INIST-120B, 354000071180870280

AN 1999-0008643 PASCAL

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AB Sensors based on proteins (GST-SmtA and MerR) with distinct binding sites for heavy **metal** ions were developed and characterized. A capacitive signal transducer was used to **measure** the conformational change following binding. The proteins were overexpressed in *Escherichia coli*, purified, and **immobilized** in different ways to a self-assembled thiol layer on a gold electrode placed as the working electrode in a potentiostatic arrangement in a flow analysis system. The selectivity and the sensitivity of the two protein-based biosensors were measured and compared for copper, cadmium, **mercury**, and zinc ions. The GST-SmtA electrodes displayed a broader selectivity (sensing all four heavy **metal** ions) compared with the MerR-based ones, which showed an accentuated

SUMMARY LANGUAGE: English

AB Blood was analyzed from 151 pelagic marine birds to establish reference ranges for hematological and plasmic biochemical parameters from healthy, wild populations of Pacific seabirds. Of the 13 species examined, 9 were from the Family Alcidae (N = 122 individuals) and the remainder (N = 29) from the Families Phalacrocoracidae, Laridae, and Procellariidae. Three of 8 hematological parameters (total white blood cell count, lymphocyte count and eosinophil count) differed significantly among species, as did 9 of 13 plasma biochemical parameters (alkaline phosphatase, aspartate aminotransferase, creatine kinase, cholesterol, glucose, lactate dehydrogenase, total bilirubin, total protein and field total protein). There were no differences among species for packed cell volume, buffy coat, cell counts of heterophils, monocytes and basophils, or for concentrations of alanine aminotransferase, triglycerides, uric acid and calcium. Plasma calcium concentration, triglyceride levels and field total protein varied significantly between sexes, with females having higher mean concentrations of all 3 parameters. However, no significant relationships between measures of breeding condition (brood patch size, subcutaneous and mesenteric fat deposits, or ovarian follicle size and ovary weight) and calcium or alkaline phosphatase concentrations in female birds could be identified. Alanine aminotransferase and uric acid were the only analytes which did not differ significantly between species or sexes.

L19 ANSWER 9 OF 10 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1994:24188962 BIOTECHNO
TITLE: Detection of a putative 30-kDa ligand of the cluster-2 antigen
AUTHOR: Helfrich W.; Van Geel M.; The T.H.; De Leij L.
CORPORATE SOURCE: Department of Clinical Immunology, University Hospital Groningen, Oostersingel 59, 9713 EZ Groningen, Netherlands.
SOURCE: International Journal of Cancer, (1994), 57/SUPPL. 8 (70-75)
DOCUMENT TYPE: CODEN: IJCNNAW ISSN: 0020-7136
COUNTRY: Journal; Conference Article
LANGUAGE: United States
SUMMARY LANGUAGE: English
AN 1994:24188962 BIOTECHNO

AB The cluster-2 antigen, also called EGP-2, is a 38-kDa transmembrane glycoprotein with a distribution that is largely confined to human epithelial cells and their derived carcinomas. Monoclonal antibodies (MAbs) directed against EGP-2 have been extensively studied as anti-tumor agents, yet the function of the antigen is not known. In the present study we used a biotinylated recombinant soluble derivative of the EGP-2 (sEGP(bio)) as a probe to detect a possible EGP-2 ligand, using various carcinoma cell lines as a substrate. The recombinant soluble EGP-2 was expressed in the *Autographa californica* nuclear polyhedrosis virus (baculovirus) expression system. The sEGP-2, to which we engineered a poly-histidine affinity tag, was purified from infected *Spodoptera frugiperda* insect cells using immobilized metal- ion-affinity chromatography (IMAC). In Western blot analysis the sEGP(bio) probe bound to a 30-kDa protein band in 2 out of 5 of the assessed carcinoma cell lines, suggesting that this band may be an EGP-2 ligand. Interestingly, binding only occurred when, prior to SDS-PAGE, cell lysates had been subjected to a reducing agent (2-mercapto-ethanol). The physiological significance of this phenomenon and nature of the detected 30-kDa protein band remains to be determined.

L19 ANSWER 10 OF 10 BIOTECHNO COPYRIGHT 2004 Elsevier Science B.V. on STN

ACCESSION NUMBER: 1984:15199683 BIOTECHNO
TITLE: Acute toxicity screening of water pollutants using a bacterial electrode

AUTHOR: Dorward E.J.; Barisas B.G.
CORPORATE SOURCE: Department of Chemistry, Colorado State University,
Fort Collins, CO 80523, United States.
SOURCE: Environmental Science and Technology, (1984), 18/12
(967-972)
CODEN: ESTHAG
DOCUMENT TYPE: Journal; Article
COUNTRY: United States
LANGUAGE: English
AN 1984:15199683 BIOTECHNO
AB Escherichia coli electrodes were used in an instrumental bioassay of the acute toxicity of substances in water. The method involves potentiometric measurement of CO₂ production by **E. coli** cells **immobilized** at the surface of a CO₂-sensing electrode. The net rate of CO₂ production by the bacteria reflects the complex series of biochemical reactions which constitute the respiratory processes of the cells. The inhibition of any part of the respiratory process by some pollutant will result in a measurable decrease in bacterial CO₂ production. The **E. coli** electrode is able to **measure** the acute toxicity of a broad range of substances, including **metals**, anions, gases, and organic compounds. Dose-effect curves obtained with the **E. coli** electrode are compared with results reported for the Beckman Microtox bioassay and for rainbow trout 96-h LC₅₀ values. Acute toxicity values measured with the **E. coli** electrode for cadmium, lead, copper, cyanide, and arsenite are comparable to those obtained with the 15-min Microtox bioassay.